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No. 614 Miscellaneous Series.

DIPLOMATIC AND CONSULAR REPORTS.

MEXICO.

REPORT ON

LIVE-STOCK IN MEXICO.

Presented to both Houses of Parliament by Command of His Majesty, JUNE, 1904.

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CONTENTS.

	Page
Introduction	3
Cattle	5
State of Jalisco	6
„ Michoacan	7
„ Chihuahua	8
„ Vera Cruz	10
„ Guanajuato	11
„ Sonora	12
„ Durango	12
Other States	13
Suitable breeds	13
Import and export trade	13
Export of ox-hides	14
Goats and sheep	15
State of Nuevo Leon	16
„ Coahuila	17
„ Durango	18
„ San Luis Potosi	18
„ Zacatecas	19
„ Tamaulipas	21
„ Guanajuato	21
„ Puebla	22
„ Hidalgo	22
Wool	23
Imports and exports	24
Export of goat and sheep-skins	24
Horses	25
State of Durango	26
„ Jalisco	26
„ Tamaulipas	26
„ Chihuahua	27
„ Zacatecas	27
„ Coahuila	28
„ Sonora	29
Imports and exports	29
Swine	30
Territory of Tepic	30
State of Jalisco	31
„ Michoacan	31
„ Guanajuato	32
„ Guerrero	32
Imports and exports	32
„ of lard	33
Exports of bristles	33
Mules and donkeys	33
State of Durango	34
„ Jalisco	35
„ Michoacan	36
„ Zacatecas	37
„ Puebla	37
„ Guanajuato	38
„ Chihuahua	38
„ San Luis Potosi	39
Imports and exports	40
Conclusions	40
Returns of maize, barley and wheat	40

Report on Live-Stock in Mexico by Mr. Biorklund, Clerk to His Majesty's Legation.

(Mexico, April 26, 1904; received at Foreign Office, May 20, 1904.)

Introduction.

Mexico has always been looked upon as a silver producing country, and its silver mines in former years were one of the chief sources of revenue of the Kingdom of Old Spain; but the development of the country has shown that many other metals are to be found within the limits of the country; and as mining in its various branches has brought the country before the public, these industries have progressed very considerably owing to the introduction of foreign capital. Modern machinery has taken the place of the old methods of treating ores, which were in use even as late as the middle of the last century.

This remarkable increase in mining has caused the Government to take special notice of the industry, and new mining laws and regulations have been issued which facilitate the acquisition of mining properties, while at the same time the revenue of the Government also profits by the extension of the area of territory from which the underground wealth of the country is extracted and by the taxes imposed upon the mining industry.

While the Government has taken so many steps to increase this industry and is thus receiving a good return from its mineral wealth, the same cannot be said in regard to the development of agriculture and the various industries which are very closely allied to it, such as the raising of cattle, &c.

The "Statesman's Year Book" publishes the statement that "large numbers of cattle are raised in Mexico for the United States. In 1883 in Northern Mexico alone, on an area of 300,000 miles, there were 1,500,000 cattle, 2,500 goats, 1,000,000 horses and 1,000,000 sheep. In the whole of Mexico in 1883 there were 20,574 cattle ranches valued at 103,000,000*l.*"

This statement is sufficient to show that the breeding of stock is carried on in Mexico, or at any rate in the Northern States of the Republic; but, as already mentioned, agriculture has received very

little attention, until quite lately, either from the Government or from foreigners as a field for investment, and consequently no later statistics could be obtained.

Forestry laws exist but are not as yet sufficiently enforced, and in many parts of the country herds of cattle, which are practically wild, cause a considerable amount of damage to the younger growth in the forests where they are sent to graze during the greater part of the year, as there is not enough fodder on what are supposed to be grazing lands belonging to the various haciendas or large farms in those districts, due to the want of proper means of irrigation.

The late Mr. Matias Romero, in his work "Geographical and Statistical Notes on Mexico," published in New York in 1898, dedicates about two pages to this subject and goes into a great deal of detail, but he there mentions the fact that "cattle breeders in Mexico, on the whole, have not advanced much in developing good breeds of cattle. They do not appreciate their value. . . . ." And further he states, "a great need of Mexico is a reliable supply of good healthy water through artificial means, well distributed over the stock ranges to prevent the great loss by death through lack of water as well as the heavy shrinkage of meat and tallow by so much unnecessary travelling of stock to water."

These two extracts serve to show what the condition of the industry was in this country at that time, and the want of any statistics has been due to the same reason that it was not considered of any great importance.

Conditions have, however, now begun to assume a different character, and the Department of Fomento is taking steps to encourage cattle breeding, while the Statistical Bureau of that department is endeavouring to procure reliable statistics in regard to it, and though its efforts may at present not be quite as successful as could be desired, at any rate the figures as set down in the return just published, corresponding to the fiscal year ending June 30, 1902, serve as a basis for the following report. The figures are in many cases incomplete, but nevertheless they serve the purpose of giving an idea of the extent of the industry throughout the country.

With reference to the extracts from Mr. Romero's work, it can safely be said that the conditions are also slightly altered, and the company which has been formed for the purpose of holding live-stock shows periodically in Mexico City will, with the valuable assistance of the Department of Fomento, do a very great deal towards improving and increasing the industry by awakening competition in the different branches. The last show was opened to the public on October 25 last for about 10 days. The exhibitors were few, but the number of animals was greater than in any former show; and not only cattle were exhibited, as on former occasions, but it also included horses (imported thoroughbreds and their offspring born in the country), cattle, sheep, dogs, swine, rabbits and hares, cats and poultry.

Although these exhibits have improved very much since they were first started, the exhibitors have, up to the present, been the same every year, and they being the only ones, the prizes have been divided among them, a circumstance which has to a certain extent created a feeling of discontent among the general public, who, without taking into consideration that no other competitors are in the field, think that a great deal of favouritism is shown by the judges at the time of awarding the prizes. This will undoubtedly wear away as soon as the object of the shows is more generally recognised and a greater number of hacendados or large farm owners from other States send their animals to compete with those of the Federal district and neighbouring haciendas or estates in the State of Mexico, who have so far been the only exhibitors. This year, however, there were animals sent from an hacienda in the State of Jalisco, belonging to some young Mexicans who have taken a great deal of interest not only in the breeding of animals but also in agriculture generally, and who are always ready to try experiments with new machinery or new methods of cultivation of crops, &c.

Notwithstanding the trouble taken by the Director of the Statistical Department, the returns as given are still very incomplete, owing in a great measure to the unwillingness of many of the owners of cattle ranches or estates to furnish the information required, as they are in many cases afraid of an increase of existing taxes, or of new ones being imposed. It is to be hoped that this feeling of distrust will soon be overcome, and then statistics in this branch will become more reliable.

According to the official statistics from which the figures in this report are taken, the following statement for the whole of the Republic of Mexico on June 30, 1902, is obtained, and only a few words will be added in explanation of each of the different divisions :—

	Head.	Value.
		Dollars.*
Horned cattle	5,142,475	81,407,619
Goats	4,206,011	7,250,430
Sheep	3,424,430	6,037,306
Horses	859,247	10,822,203
Swine	616,139	2,068,090
Mules	334,435	10,576,958
Donkeys	287,991	2,360,552
Total	..	120,523,158

* 1 dol. = 2*s.* approximately.

It must, however, be remembered that both the quantities and values as given above are only approximate and must not, for the reasons already expressed, be considered as being absolutely correct.

Cattle. The raising of cattle is very general throughout the whole of the Republic of Mexico, but there are certain States in which

it is much more extensively carried on, namely, Jalisco, Michoacan, Chihuahua, Vera Cruz, Guanajuato, Sonora and Durango. The number of head reported to exist in these seven States amounts to 2,518,028, while the remaining 23 States and Territories can only account for 2,624,447, or a little more than half of the whole total.

State of Jalisco.

The State of Jalisco, in which the greatest number of cattle are reported, covers an area of 33,486 square miles, is situated on the Pacific Coast and is considered to be one of the most fertile States of the Republic. The State lies on the western or Pacific side of the great Cordillera of the Sierra Madre, which runs through the whole of the country, but owing to the configuration of the slopes and ridges, immense plains are found throughout the State, which are rendered more fertile by the rivers rising in these mountains and emptying themselves either into the larger rivers or into the Pacific Ocean. Besides the streams and rivers there are numerous springs (many of them of a thermal character) and also various lakes which also assist towards the fertility of the State.

Jalisco is divided into 12 sections or cantons; those in which the greatest number of cattle are said to exist are Ciudad Guzman (93,909), Guadalajara (88,544), La Barca (86,740), Autlan (68,111), Sayula (52,158), Mascota (49,074) and Lagos (49,031).

In the district of Ciudad Guzman, the only municipality of any great importance is Pihuamo, situated in the south of the State, and bordering upon the State of Michoacan, at an elevation of 1,800 feet, with a hot temperature. The value of the 29,790 head said to be in Pihuamo is 281,160 dol.; while the value of the cattle in the other 61 municipalities varies very considerably, and in none of them does the quantity exceed 10,000 head. The total number in the whole of the district is 93,909 head, with an estimated value of 1,448,860 dol.

In the canton or district of Guadalajara there are said to be 88,544 head, valued at 1,265,763 dol., of which 28,434 head, valued at 284,340 dol., are found in the municipality of Zapotlanejo, and 25,200 head, valued at 378,000 dol., in that of Tala. Both of these districts have a temperate climate and are at an elevation respectively of 5,234 and 4,412 feet, nearing the north-eastern portion of the State, where it borders with that of Zacatecas and also Guanajuato, in which are found some of the highest ridges of the Sierra Madre.

There are said to be 86,740 head, valued at 1,701,842 dol., in the canton of La Barca, which is divided into 10 different municipalities, the principal being La Barca, with 21,605 head of cattle, valued at 543,625 dol.; Tepatitlan, 17,197 head, valued at 213,122 dol.; and Ocotlan, 14,000 head, valued at 280,000 dol. The greater part of the canton is traversed by the Rio Grande de Santiago, known in parts as the La Barca and Ocolan River. The whole of this district, with the single exception of the municipality of Jesus Maria (which is at an altitude of 6,921 feet and cold), is of a temperate climate, the altitude of La Barca being only 5,793 feet. The municipalities of La Barca and Ocotlan are situated along the northern shore of Lake

Chapala, and the whole of the country consists of undulating slopes with sufficient water to make it fertile, while the swamps and marshes along the shores of the lake and rivers afford splendid pasture lands.

The canton of Autlan embraces the greater part of the sea coast belonging to this State, and the temperature is hot along the coast, but is temperate in the remainder of the district. It comprises seven municipalities and is reported as containing 68,111 head of cattle, valued at 947,946 dol.; the principal municipality being Autlan, situated at an altitude of 3,230 feet, with 25,542 head, valued at 266,460 dol.

The other three cantons or districts, Sayula, Mascota and Lagos, are all so divided into small municipalities that with the single exception of Lagos, in the canton of the same name, which is said to possess 21,150 head, valued at 415,000 dol., the number of cattle in each is too insignificant to merit any special detail.

The value returned varies from 5 to 25 dol. per head throughout this State.

State of Michoacan.

The next State of importance is Michoacan, which lies to the south of Jalisco, and enjoys many of the same topographical and climatic characteristics, as it lies on the same side of the Cordillera. It covers an area of 22,617 square miles, but it is broken more and the forest vegetation is more abundant. There are also several lakes in this State, while streams are more general in the mountains than in the State of Jalisco, which in nearly all cases flow into the large river of Las Balsas, on the boundary of the State with those of Mexico and Guerrero.

This State is divided into 15 districts, the most important being Apatzingan (101,718), Ario (81,539), Huetamo (49,180), Coalcoman (45,880) and Zamora (38,221).

The district of Apatzingan is divided into four municipalities, namely, Apatzingan, Paracuaro, Aguililla and Tepalcatepec, of which the first two are those in which the greater number of cattle are found. Apatzingan has 24,587 head, valued at 245,870 dol., and Paracuaro, 54,700 head, valued at 547,000 dol. The value set down in this district is almost uniform at 10 dol. per head. The temperature is hot throughout the district, which lies at an altitude of about 3,000 feet, and it is watered by the Tancitaro River, which, with other smaller branches, flows into the Las Balsas River.

The district of Ario de Rosales is also divided into four municipalities, Huacana being the only one of any importance, the quantity reported being 60,940 head, valued at 609,400 dol., and the price per head varying according to the district. The temperature in this district varies very considerably, at Huacana, which is low, it is hot, while at Ario, which is 8,724 feet above sea level, it is cold.

There are said to be 49,180 head of cattle, valued at 536,330 dol., in the district of Huetamo, which is sub-divided into three municipalities, Zirandaro being the principal with 28,320 head, valued at 339,840 dol. The value of the cattle in this district varies from

7 to 11 dol. per head. The Balsas River flows through the municipality and as the volume of water is very great it serves as an easy means of irrigation. The climate in the municipality is hot, the greatest altitude, at Huetamo, being only 1,043 feet, and at Zirandaro it is only 636 feet.

The district of Coalcoman is another of the cattle raising districts of the State of Michoacan. It is situated on the Pacific Coast, and though there are several important streams flowing through it the country is more rugged than would be expected so close to the shore, especially near the Bay of San Elmo, where it rises very abruptly, the mountain passes being only a few miles away from the ocean. In many places the passes are very dangerous, the path being scarcely wide enough to allow the animals to go even in single file, while on either side there are precipices thousands of feet deep. The mountains in this district are well wooded and the cattle find plenty of food in the forests and open plains, while water is found in many rivulets and springs. The value of the 45,880 head reported in this district, which is only divided into two municipalities, is 699,200 dol.

Before closing the remarks on the State of Michoacan, a few words must be said in regard to the last district of any importance, namely, Zamora, which for many years has been known as one of the principal cattle raising districts in the central part of the Republic.

The district of Zamora is situated in the northern part of the State of Michoacan, and is divided into nine different municipalities, the principal one being Ixtlan. The temperature of the whole district of Zamora is cold, it is well suited for the rearing of cattle as the vast plains in the various municipalities are watered by streams which rise in the higher lands and flow into Lake Chapala. The number of head in the whole district is 38,221, valued at 712,560 dol., of which 23,630 are said to be in the municipality of Ixtlan, their value being set down at 496,600 dol. The value per head in the various municipalities varies from 10 to 25 dol. per head. Many of the estates in this municipality of Ixtlan extend as far north as that of La Barca, in the State of Jalisco, and the La Barca River (which is there made use of for irrigation purposes by the erection of large dams and reservoirs) affords the same facilities to the estates through which it flows in this district, providing an easy means of procuring good pasturage; and the shores of the lake of Chapala afford good pasturage for the rapid fattening of cattle for market.

State of Chihuahua.

The State of Chihuahua, which is set down in the statistical returns as the third of any importance in this industry, covers an area of 89,983 square miles, is situated on the northern frontier of the Republic, and is largely composed of vast open plains which become arid deserts in the winter, though of late years large tracts have by means of artificial irrigation been reclaimed and are now flourishing districts.

The value of the 396,023 head of cattle returned from that State is reported to be 5,151,031 dol., of which the greatest number is found in the following districts: Iturbide (149,858), Guerrero (106,900), Camargo (39,260) and Jimenez (33,764).

The district of Iturbide is situated near the southern shore of the Rio Bravo, which forms the division line between the territories of Mexico and the United States of America. The temperature throughout the district is cold owing to the broken aspect of the country, as the spurs of the great Cordillera of the Sierra Madre cover a great part of the State; the altitude in the district varies from 2,207 feet at Satevó to 6,967 feet at Cerro Prieto. The 149,858 head of cattle in this district are valued at 1,306,703 dol., but there are only two municipalities in which the returns show figures of any importance, namely Cusihuiriachic and Ojinaga, in the former there are said to be 69,301 head, valued at 273,426 dol., and in the latter 50,000 head, with a value of 600,000 dol. The altitude of Cusihuiriachic is 6,271 feet and is situated far up in the mountains, not far from Cerro Prieto, which is the highest point in the district. The altitude of Ojinaga is only 3,483 feet, and though not so high it is still on the slopes of the mountains and the temperature is cold. Some of the affluents of the Conchos River flow into the Rio Bravo through this district. The price of cattle, as given in the returns from which all these figures are taken, varies from 10 to 40 dol. per head.

In the district of Guerrero there were said to be 106,900 head of cattle, valued at 1,837,180 dol. Returns have been received from the five municipalities in this district, the two principal being Temosachic with 61,560 head, valued at 1,234,000 dol., and Namiquipa with 32,000 head, valued at 367,000 dol. This district is situated in the heart of the Sierra Madre, but the temperature is not so cold as in the district of Iturbide. There are several streams in the district, some of which flow into the Rio Bravo, and others join the Yaqui River, which flows through the State of Sonora into the Pacific. The price in this district varies from 10 to 20 dol. per head.

The returns from the district of Camargo show 39,260 head, valued at 575,440 dol. Taking the two principal municipalities of this district, namely Santa Rosalia (with 16,050 head, valued at 256,800 dol.) and Rosales (with 12,900 head set down at 193,500 dol.), the remaining 10,000 head are scattered over the other six municipalities that have sent in the returns. This district is situated on the banks of the Rio Grande, and though it reaches an altitude of over 4,000 feet, the temperature throughout is reported as hot. The price set down in the returns varies from 10 to 15 dol. per head according to locality.

The last district of any importance in this State is Jimenez, in which there are reported to be 33,764 head, with a value of 350,043 dol. The municipalities of Villa Coronado and Allende being the principal producers. The former is said to have 18,350 head, valued at 18,500 dol., and the latter 11,410 head, with a value of 114,100 dol.;

the remainder being divided in small quantities among the other municipalities which have sent in returns. The altitude of Villa Coronado is 6,429 feet, and that of Allende 5,090 feet, and the temperature throughout this district is cold, as it is situated on the Sierra Madre; there are also several streams that flow through the district into the Conchos River, which finally empties into the Rio Bravo on the frontier. The price of cattle is set down at from 10 to 20 dol. per head, the same price as in some of the other districts of this State.

State of Vera Cruz.

The State of Vera Cruz is a narrow strip of country lying along the Gulf of Mexico between the degrees 17° 43′ and 23° 15′ N. lat., with a temperature which is hot in the lowlands, temperate on some of the higher ridges, and at the greatest altitude snow and frost are of common occurrence in the winter. It covers an area of 29,287 square miles and is divided into 18 districts or cantons. There are immense tracts of country watered by innumerable streams which afford ample pasturage for numerous herds of cattle, which should be, and undoubtedly are, an unbounded source of revenue to the owners of cattle ranches in this State, but as the State is divided into so many districts, and these into a greater number of municipalities, only the most important will be dealt with. The total number of cattle said to be in this State is 392,858, with an approximate value of 6,631,379 dol.

The district of Vera Cruz is where most are reported, namely, 91,597, while the municipality of Tlalixcoyan, situated close to the mouth of the Rio Blanco, alone has 40,309, valued at 403,296 dol. Although the altitude of the towns in this district is not very great the climate is said to be temperate. Another municipality of importance in this same district is Tlacotalpam, situated at the mouth of a large lagoon or estuary formed by the San Juan and Papalopan Rivers, in which there are said to be 13,250 head of cattle, with a value of 132,717 dol.

The district of Acayucan is still further south, and the climate is temperate, a circumstance partly accounted for by the broken nature of the country, which is traversed in all directions by spurs from the mountain ranges of the Sierra Madre, forming the limits of this State with that of Oaxaca. In this district there are said to be 53,567 head of cattle, valued at 668,608 dol. The most important of the municipalities in this district is San Juan Evangelista, with 37,272 head, valued at 361,047 dol. This district is watered by affluents of the San Juan River and also by others that flow into the Coatzacoalcos River, which empties into the Gulf of Mexico at the town of Coatzacoalcos.

The district of Cosamaloapan is situated further inland than that of Vera Cruz, but the climate there is hot. The Papaloapan River flows through the district and municipality of the same name, as also through Playa Vicente. The total number of cattle reported from this district is 62,723, valued at 934,665 dol., of which 22,440, with a value of 286,600 dol., are said to be in the municipality of

Tesechoacan, which is watered by the river of the same name, and which is one of the principal affluents of the Papaloapan River.

State of Guanajuato.

The States of most importance in the raising of cattle already referred to have all been, with the exception of Chihuahua, on the sea coasts; but both Jalisco and Michoacan extend a great distance inland, and in fact form the boundaries of Guanajuato which is the next of any importance. This State is situated in the centre of the Republic and on the higher levels of the Sierra Madre, the altitude of most of the places in this political division being over 5,750 feet. It covers an area of 11,371 square miles, and is divided into 29 districts which are further sub-divided into a greater number of municipalities. The general aspect of the State is broken as it embraces the higher plateau, and ridges of the Cordillera extend in all directions, forming extensive valleys and plains well watered by numerous streams that form affluents to the large rivers that have their source in the highest plateau of the Republic and flow through several States before reaching the ocean. The total number of cattle reported from this State is 224,242, valued at 4,276,583*l*.

The most important district is Ciudad Gonzalez, in which there are said to be 23,083 head of cattle, valued at 208,483 dol., of which 19,039 head are found in the municipality of Ciudad Gonzalez (formerly known as San Felipe de Torres Mochas), which is situated on a vast plain in the mountain range, abundantly supplied with springs, as well as an important branch of the Lerma River which flows through the district. The temperature is cold.

San Miguel de Allende, another fertile valley watered by the same river, also has ample pasturage for the 17,026 head of cattle said to be in the district, that are reported to be valued at 340,520 dol.

There are in all 44 municipalities in the State, but as the cattle are spread all over the different towns it is impossible to enter into any detail as to the importance of each. In a general way the natives are more given to agricultural pursuits than in many of the other States, and the result is that the number is more equally divided; for instance, in Acambaro there are 12,267; Jerécuaro, 10,885; Abasolo, 10,414; Irapuato, 11,513; Romita, 12,027; Silao, 11,070, and so on. All these places have the advantage of being watered by streams which flow into the Lerma River, or else, as at Silao, numerous springs are found that afford an easy method of irrigation for the crops and pasture lands. The temperature also is very favourable in nearly all the places mentioned. Many of the localities bordering on Jalisco and Michoacan possess the same climatic and natural advantages that are found in those States. The prices for cattle in this State vary very much according to locality. They are quoted at from 9 to 45 dol., the highest being in the district of Celaya, where many of the animals are crossed with foreign stock, chiefly of the Schleswig-Holstein breed, which have been imported for the Hacienda de Roque and others in the same district. In the district of Salamanca the price is estimated at 30 dol. per head.

State of Sonora.

The State of Sonora follows that of Guanajuato in importance, the number of head reported being 260,732, valued at 3,219,242 dol. It is situated on the Gulf of California, and has the United States as a neighbour on its northern frontier. It covers an area of 76,619 square miles and is traversed by the great Cordillera of the Sierra Madre, which divides it from the State of Chihuahua. The principal rivers in this State are the Ascencion, the Sonora, the Yaqui and the Mayo, all of which rise in the mountains and flow only through this State before emptying into the Gulf of California. The temperature throughout the State can be considered as hot, though in the upper lands it is temperate; the district of La Magdalena is 4,925 feet above sea level.

Of the nine districts into which the State is divided, the most important in cattle raising is that of Arizpe, in which there are said to be 69,532 head of cattle, valued at 725,010 dol. The principal municipalities in this district are Fronteras with 33,240 and Arizpe with 22,900 head of cattle. Both Fronteras and Arizpe are situated on the slopes of the Sierra Madre (Fronteras at an altitude of 3,630 feet), and have a temperate climate; the Sonora River rises in this district and good grazing lands are found on its banks.

The municipality of Santa Cruz, in the district of La Magdalena, situated at an altitude of 4,428 feet, is the next in importance, with 14,040 head, that of Altar, in the district of the same name, with 13,350 head, and Hermosillo, in the district of the same name, and capital of the State, with 12,117 head, are the only other municipalities in which any large amount of cattle is found. The altitude of Hermosillo is only 705 feet, and is hot, although the Sonora River flows through the district.

The average price per head in this State varies from 10 to 20 dol., although there are some places, like the district of Hermosillo, where the price is as low as 5 dol. 50 c.

State of Durango.

From the returns furnished to the Statistical Department, and from which all the figures in this report are taken, the only other State of any very great importance is Durango.

The State of Durango covers an area of 43,165 square miles, and, as it lies high, it has a very temperate climate. It is full of rugged peaks, and many of the valleys formed by the undulations of the country contain large tracts of fertile lands used for grazing. The total number of cattle reported from this State is 233,041, valued at 3,859,190 dol.; of which the greater number are found in the following districts: Indé, Durango, Santiago, Papasquiaro, San Juan del Rio and El Oro.

The district of Indé is said to contain 47,849 head, valued at 654,576 dol., the principal municipality being Villa Hidalgo, formerly known as Cerro Gordo, in which the number is 18,800 head; the other two municipalities of Indé and Ocampo having respectively 14,596 and 14,453 head. This district is situated at an altitude of 6,199 feet above sea level, and as it is in the mountains the climate is temperate,

there are streams flowing into the lakes on the borders of this State and Chihuahua.

The district of Durango comprises the capital of the State and surrounding neighbourhood, and is said to contain 45,516 head, valued at 920,074 dol. The municipalities of Durango (22,642) and Canatlan (20,991) being the two most important in this district. Its altitude is nearly 7,000 feet, the climate is very temperate, and the Tunal River, which rises in the mountains, flows through the district.

In the district of Santiago Papasquiaro the only municipality of any importance is that of the same name, which is said to have 11,830 head out of the 24,282 head in the whole of the district, the total value of which is said to be 345,145 dol. This district is at almost the same altitude as the preceding, the highest point, Guanecevi, being 6,759 feet, while Santiago Papasquiaro is only 5,773 feet. Guanacevi, which lies in the same district, has long been noted for its breed of cattle, nevertheless the number as returned is only 3,459 head, with a value of 51,885 dol.

The only other two districts of any importance are San Juan del Rio and El Oro ; the former with 23,739 head, valued at 518,070 dol., and the latter with 20,023 head, valued at 400,820 dol., but as they are so divided among the various municipalities into which these districts are sub-divided it is not worth while to go into any detail. The climate is temperate in both of these districts.

The average price per head in this State varies from 10 to 30 dol., according to the locality or district.

Other States.

Although the foregoing are conidered from the statistics published as being the most important States in quantity and area, there are many others in the Republic in which cattle raising is carried on to a great extent, but it would make this report too lengthy to go into any further detail in regard to the other States. There are also many districts in which animals are specially bred and chosen for bull fighting, owing to their being very spirited, though small in comparison with the Spanish bulls imported for the purpose.

Suitable breeds.

Experiments have been made with foreign cattle for breeding purposes, but as the climate and altitude are so varied, different breeds have to be chosen for each locality. Herefords seem to do very well in the north of the Republic, especially round Salinas in the State of Coahuila. The Holstein breed of cattle seems to be the one, however, which adapts itself most easily to the various climates, and is found more generally than any of the other breeds. Swiss cattle succeed on the higher table lands, such as the Valley of Mexico, &c., but they do not thrive so well on the slopes of the mountains of Jalisco, where Durhams are sought in preference. The Jersey breed of cattle is found in many places, but are not considered as such productive animals as either the Holstein or Swiss breeds.

Import and export trade

In connection with cattle raising in this country a few words may be said in regard to the import and export of the same, and also about the export of prepared or salted hides during the past years.

The statistics in regard to the import of cattle do not specify the number of head, but give only the weight of the cattle, whereas in the imports of other animals the number is given :—

Year.	Imports.		Exports.	
	Quantity.	Value.	Head.	Value.
	Kilos.	Dollars.		Dollars.
1900	2,722,138	186,525	184,165	5,732,004
1901	3,155,041	218,017	197,624	5,857,556
1902	3,839,811	284,214	162,794	4,721,773

OX-HIDES EXPORTED.

Year.	Quantity.	Value.
	Kilos.	Dollars.
1900	8,252,691	1,575,905
1901	10,382,641	1,966,521
1902	12,847,021	2,602,672

From the foregoing figures three conclusions are arrived at : (1st) That the weight as well as value of imported cattle (which also includes calves) has increased in a marked degree, and appears to indicate that a greater number of animals are imported, most of which come overland from the United States, although Swiss cattle come by steamers either to Vera Cruz or Tampico ; (2nd) that the export of cattle from Mexico appears to be on the decrease ; and (3rd) that the exports of hides from Mexico have on the contrary increased even in a greater degree than the increase in live animals, or the decrease of the live-stock exported.

In regard to these conclusions a few words may be said which in a great measure bear out the opinion expressed by the late Mr. Matias Romero, who, in his book on Mexico already referred to, stated that "it would be an advantage to the country if breeders of cattle would follow the example given by Texas and Argentina and import good English short horns with the object of breeding larger cattle, so as to make the export of cattle to England more profitable, as at present the greatest drawback to the increase of this industry is the small size of Mexican cattle, which only weigh from 900 to 1,000 lbs., whereas cattle weighing 1,200 lbs. are considered small by cattle dealers in Liverpool."

The decrease in the export of live cattle may in a measure be accounted for by the larger demand for home consumption, and also by the increase in the number of hides exported, this decrease serves a double object, it supplies the greater demand for fresh beef and veal for home consumption, and reduces the heavy

expense and risk of sending live-stock abroad. Hides, as well as horns and hair of cattle, are exported at much less expense than the live animals over the railways, and the loss on the roads before reaching the railways, which in many districts means several days' journey, is further obviated.

It can fairly be presumed that when the railways extend further from the large centres, transportation of live-stock will be greatly facilitated, and the industry will assuredly feel the benefit of increased railway communication.

A great many of the large haciendas where cattle are kept in any large quantity, and where the dairy business is carried on at all, belong to Spaniards, and in those where the owners are Mexican, Spaniards are nearly always employed to look after the animals.

Sheep and goats.

The raising of sheep and goats has been for some time past a very extensive industry, and though the varieties that are bred are perhaps of the commonest kinds, the Government has of late years done a great deal to stimulate the industry by permitting live sheep and goats to come into the country.

In dealing with sheep and goats it has been considered advisable to take them together, as most of the statistics as published give the returns together, and though the Department of Fomento has in the present instance given them separately, the totals of both will, however, be considered in their relation with other statistics.

In considering the number of sheep and goats in the Republic of Mexico, the following table will be of more service than a lengthy description in words :—

State.	Goats.		Sheep.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
Nuevo Leon	916,915	1,214,318	151,526	231,725
Coahuila	615,144	1,016,875	180,415	277,861
Durango	534,304	958,585	383,947	646,170
San Luis Potosi ..	519,844	605,990	415,697	779,294
Zacatecas	429,377	1,089,205	826,704	1,458,746
Tamaulipas	264,911	249,953	108,284	103,025
Guanajuato	239,933	378,699	194,805	275,014
Puebla	193,397	532,147	228,358	510,031
Hidalgo	50,067	91,991	186,663	442,626

From the foregoing figures it will be observed that the States in which there are the greatest number of goats do not contain the corresponding ratio of sheep, but at the same time these nine States are the principal ones in both branches, the number in the other States being very much less, and not worth taking into consideration.

It will also be observed that all the States, with the exception of Tamaulipas, are inland and consequently are situated on the

higher plateaux of the Sierra Madre. In Tamaulipas it must, however, be considered that, though a State bordering upon the Gulf of Mexico, it is beyond the tropics, and consequently its temperature is not to be compared with the States of Campeche and Tabasco or even Yucatan, which also border upon the same Gulf, but which are decidedly tropical. In these latter States neither sheep nor goats appear to thrive, as the returns give only 18 sheep and 41 goats for the whole of the State of Campeche ; 853 sheep and 1,763 goats for Tabasco ; and 678 sheep and 273 goats for the whole of the State of Yucatan.

State of Nuevo Leon.

The State of Nuevo Leon, covering an area of 24,113 square miles, is situated between the degrees 23 and 27 N. lat., and is traversed by spurs from the Sierra Madre, between which lie numerous fertile valleys as far as the lowlands forming the slopes towards the United States frontier ; the plains of Texas being divided from the lowlands of Tamaulipas and Coahuila by the Rio Grande. This State is divided into 49 municipalities, of which only five are of any importance, namely, Sabinas Hidalgo, Cerralvo Galeana, Lampazos and Villadama.

The municipality of Sabinas Hidalgo is situated near that of Sabinas Victoria, which is said to be 1,542 feet above sea level. It is upon the slopes of the mountain ranges, but its climate is said to be hot. The Salado River (known also as the Sabinas and San Diego River) rises in this municipality, producing abundant vegetation as pasture for numerous herds of sheep and goats, an industry which affords a livelihood to many of the inhabitants in this district.

Mr. Antonio Garica Cubas, who issued his "Geographical, Historical and Biographical Dictionary" in 1890, stated that according to the latest data published in regard to live-stock in the State of Nuevo Leon the value was 2,461,920 dol., whereas the statistics just published by the Department of Fomento give the approximate value of all animals at only 3,393,625 dol.

By taking Mr. Garica Cubas' figures and comparing them with the latest statistics the following comparison is obtained :—

	1890.		1902.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
Sheep	165,710	165,710	151,526	231,725
Goats	286,857	286,857	916,915	1,214,318

The figures for 1902 are, however, not correct, as there are several municipalities which have failed to send in returns.

The number of goats returned from the municipality of Sabinas Hidalgo is 110,243, valued at 118,193 dol. ; while it is impossible to give the number or value of sheep as the returns are wanting.

The municipality of Cerralvo, which is next in importance, is situated at an altitude of 1,591 feet above sea level; the climate is also hot. The country is ferti'e, as it is watered by affluents of the Rio Grande on the northern frontier. The number of sheep and goats in the municipality is said to be 210 sheep, valued at 210 dol., and 92,200 goats, valued at 184,400 dol.

In the municipality of Galeana the returns show 32,371 sheep, valued at 33,953 dol., and 81,111 goats representing an approximate value of 78,897 dol. This municipality is in the southern portion of the State; being situated upon the higher ranges, it is cold. There are several streams which have their source in the mountains in this part of the country, and which flow into the San Juan River, which ultimately flows into the Rio Grande on the border of the State of Tamaulipas.

The municipality of Lampazos, situated in the extreme north of the State of Nuevo Leon, at an altitude of 1,200 feet above sea level, is said to possess 64,600 sheep, valued at 139,250 dol., and 80,000 goats, with a value of 120,000 do'. This municipality is undoubtedly a very important one, as the Mexican National Railway, after leaving the border and crossing the narrow strip of the State of Coahuila, traverses this municipality before touching at the large town of Monterey, the capital of the State of Nuevo Leon; the town of Lampazos in this municipality being the first of any importance in Mexican territory that is touched by the railway.

The last municipality is Villaldama, situated to the south of the foregoing, at an altitude of 1,410 feet; it is also traversed by the same railway. The number of goats returned from th s municipality is set down at 75,300, with a value of 75,300 dol., but no returns have been sent in in regard to the number or value of sheep in this district.

The average price ruling in this State is about 1 dol. 50 c. for sheep, and a trifle over 1 dol. for goats, although in individual municipalities the price is almost uniform at 1 dol. per head.

State of Coahuila.

As shown in the tables, the State of Coahuila sent in returns giving a total of 615,144 goats and 180,415 sheep, of which the greater number are found in the district of Rio Grande, in the municipality of Jimenez (86,381 goats and 63,331 sheep), a description of which will be found under the heading of horses.

Besides the foregoing, goats and sheep are found in sufficiently large quantities in the following municipalities of the same State :—

	Goats.		Sheep.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
Zaragoza	81,500	81,500	27,000	27,000
Guerrero	39,760	79,520	21,390	42,780
Rosales	37,100	37,100	..	..
Zepeda	50,600	101,200	5,950	11,900

And though the total number of sheep is set down at 180,415, it can certainly be assumed that it is much greater, for as has happened in the case of the municipality of Rosales, mentioned in the table, there are 16 others in the State from which no returns have been received, and it may be presumed that in many of these sheep are to be found.

The average price per head in this State varies from 1 to 3 dol. for sheep, and 1 dol. 50 c. to 4 dol. 50 c. for goats.

State of Durango.

The State of next importance is that of Durango, adjoining Coahuila, in which there are said to be 534,304 goats, valued at 958,585 dol., and 383,947 sheep, with a value of 646,170 dol., of which the greater number are found in the following districts :—

	Goats.		Sheep.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
Indé	107,968	186,146	154,074	296,611
Cuencamé	102,182	113,057	122,789	129,769
Mapimí..	64,800	140,700	..	..
Durango	21,226	39,472	65,047	154,171

As a full description of these municipalities and of the State in general is given under the headings of cattle and horses, it is needless to go into any further detail in this instance, and it will suffice to say that the average price per head in this State is 1 dol. 50 c. to 2 dol. 50 c. for goats, and 1 to 3 dol. for sheep.

State of San Luis Potosi.

The State of San Luis Potosi, which comes next, is situated upon the higher table lands of the Cordillera of the Sierra Madre. It covers an area of 28,129 square miles ; its climate varies according to locality and altitude, but in no district can it be said to be cold. The greatest altitude reported is that of the municipality of San Martin, in the district of Tamazunchale, which is 9,007 feet above sea level.

The State of San Luis Potosi is divided into 13 different districts, which are again sub-divided into a greater number of municipalities.

According to the returns published by the Department of Fomento, the State of San Luis Potosi has 519,844 goats, valued at 605,990 dol., and 415,697 sheep, with a value of 779,294 dol.; but these figures are not absolutely correct, as 17 municipalities have not reported the number either of sheep or goats, but taking the figures as they stand, the most important municipalities are Guadalcazar, Santa Maria del Rio and Rio Verde for goats, and Santo Domingo, Concordia, Montezuma and Salinas for sheep.

Guadalcazar is situated in the municipality and district of the same name, and there are said to be 284,104 goats, valued at

289,949 dol., in the whole of the district, out of which 249,300 goats are said to be in the municipality above named. Though the climate is temperate and the altitude is 5,412 feet, only 780 sheep are returned as being in the district, which is situated in a mountainous region and is not particularly fertile, though it is recognised as being a very large mining centre.

The district of Santa Maria del Rio is divided into three municipalities—Santa Maria del Rio, in which there are 33,465 goats; Villa de Reyes (or San Francisco), with 17,065 goats; and Tierra Nueva, in which there are 2,067 goats; making a total for the district of 52,597 goats, valued at 59,599 dol. This district, situated at an altitude of over 5,743 feet, is irrigated by an affluent of the Panuco River, but does not seem to be very favourable for the production of sheep, as there are only 25,491, valued at 37,380 dol., of which 14,588 are found in the Villa de Reyes, and 10,299 in Santa Maria del Rio.

The district of Rio Verde is divided into four municipalities, and returns a total of 29,607 goats, valued at 31,824 dol., of which the greater number, 23,850, are found in the municipality of Rio Verde. The district takes its name from the river of the same name, which rises in this region and flows into the Panuco River in the municipality of San Ciro, in this same district. There are only 9,904 sheep reported from this district, valued at 12,299 dol., of which 6,470 are found in the same municipality of Rio Verde. From the foregoing figures it would appear that in those districts or regions where goats are most abundant sheep do not thrive as well.

Sheep are found in greatest numbers in the districts of Salinas and Venado.

The district of Salinas is divided into three municipalities—Salinas and Concordia, mentioned above, and Ramos. From the latter no returns have been received; the number at Salinas is stated to be 30,035, valued at 60,070 dol., and the number from Concordia being 92,000, valued at 182,000 dol.

The district of Venado is divided into four municipalities—Venado, Charcas, in both of which the number is too small to be taken into consideration, and Montezuma and Santo Domingo, also mentioned above, in which there are respectively 30,960, valued at 29,410 dol., and 130,000, with a value of 325,000 dol.

The price per head in this State averages from 1 to 2 dol. for goats, according to locality; while that for sheep is set down at from 1 dol. to 2 dol. 50 c.

The number of sheep and goats in the State of Zacatecas is set down in the returns as follows :— State of Zacatecas.

	Head.	Value.
		Dollars.
Goats	429,377	1,089,205
Sheep	826,704	1,458,746

Of these, the greater number are found in the districts of Sombrerete, Nieves, Zacatecas, Fresnillo, Pinos and Mazapil. They are all large mining districts, and in consequence the inhabitants are not much given to agriculture.

The district of Sombrerete is situated on the Cordillera, at an altitude varying from 6,858 to 7,803 feet. The municipality of Sain el Alto is reported as having 21,750 goats, valued at 65,250 dol., out of a total of 46,168 returned from the whole State. This district is, however, a very important one for the rearing of sheep, the municipality of Sombrerete having 870,088, and Sain el Alto 86,650, out of 174,919 returned for the whole district, which are valued at 333 dol.

The district of Nieves is the next in importance. It is situated at an altitude of about 6,635 feet, and the climate is considered as very temperate. It is divided into four municipalities, of which the only two of any importance are Nieves and San Miguel del Mezquital. The former has 50,703 goats, valued at 66,925 dol., and the latter 10,700 goats, valued at 18,700 dol.; the total number of goats reported from the district being 66,503, with an approximate value of 93,225 dol. The total number of sheep in this district is 166,692, valued at 395,031 dol., of which the largest number, 100,000, valued at 300,000 dol., are in the municipality of San Miguel del Mezquital. The returns for goats in this municipality have not been rendered. There are also said to be 45,246 sheep, valued at 69,521 dol., in the municipality of Rio Grande, and 21,156 sheep, valued at 25,000 dol., in that of Nieves. This district has the advantage of numerous streams, which rise in the mountains and flow through the various municipalities of the district.

In the district of Zacatecas, which is situated on the highest table lands at an altitude varying from 6,845 feet at San Pedro Piedra Gorda, to 8,666 feet at a place called Minillas, there are said to be 59,760 goats and 146,890 sheep in the district; the value of the former is set down at 530 067 dol., and that of the latter at that of 290,242 dol. The municipalities of Sauceda and Guadalupe being in both cases the most important in the district, the number of goats being respectively 17,877 and 13,723, and the number of sheep 62,920 and 61,689. Both of the municipalities are situated close to the capital of the State, and are in easy communication with the main line of the Mexican Central Railway, which traverses the State.

The district of Fresnillo, which is not at so great an altitude as that of Zacatecas, appears from the published returns to be the principal centre of this industry in this State. The total number of goats and sheep in this district is fairly well distributed among the three municipalities into which it is divided, as can be seen from the following figures:—

	Goats.		Sheep.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
Fresnillo	25,473	27,713	52,838	57,612
Villa de Cos	28,507	44,303	50,354	82,765
Valparaiso	21,500	43,000	14,200	28,400

This district is also traversed by the Mexican Central Railway, and there is a station of some importance at the town of Fresnillo itself.

The district of Mazapil is situated in the north-eastern part of the State of Zacatecas, at an altitude of 7,675 feet, in a mountainous region. The total number of goats in the district is given at 65,007, valued at 75,817 dol., the number of sheep being 65,500, valued at 66,000 dol. The municipalities of Mazapil have not sent any return of the number of sheep, and that of Sierrahermosa has not reported the number of goats.

The last district of any importance in this State is that of Pinos, in which there are said to be 67,659 goats, valued at 80,616 dol., and 103,060 sheep, with an approximate value of 114,558 dol., the greater number of which are to be found in the municipalities of Pinos and Villa Garcia. This district is situated at an altitude of over 7,393 feet and has a cold temperature.

The average price for goats in the State of Zacatecas is from 1 to 3 dol., and that for sheep varies from 1 to 3 dol., according to the district or municipality.

State of Tamaulipas.

In the State of Tamaulipas the raising of goats and sheep is carried on principally in the northern district of the State. The total number of goats reported from the whole of the State being set down at 264,911, with a value of 249,953 dol., of which 167,284 are in the northern district; the chief point of production being the municipality of Mendez, at an altitude of 623 feet above sea level.

At Tula, the principal municipality in the fourth district of Tamaulipas, there are said to be 56,300 goats out of a total of 72,507 goats for the whole district.

Out of a total of 108,284 sheep, valued at the sum of 103,125 dol., as returned for 20 (out of 37) municipalities, the most important are to be found on the northern district, which gives a total number of sheep of 95,805, valued at 90,890 dol. The returns from this district being almost complete, only two are short in the return of sheep and one in that of the number of goats.

State of Guanajuato.

The State of Guanajuato, which has been described under the heading of cattle, is a very important one also in the raising of goats and sheep; 239,933 of the former, valued at 378,699 dol., and 194,805 of the latter, valued at 275,014 dol., are returned from this State. Returns have been received from all but one of the municipalities in this State.

The principal municipalities in which goats are found are Allende (18,621, value 37,242 dol.), Salamanca (17,824, value 12,287 dol.), and Ciudad Gonzalez, formerly known as San Felipe Torres Mochas (15,507, value 10,117 dol.), while those in which the greatest number of sheep are reported are Ocampo (22,444, value 16,764 dol.) and Ciudad Gonzalez (20,015, value 16,621 dol.), all of which are situated in the centre of the State; and though the country is broken on account of being on the mountain ridges, and at an altitude varying from 5,730 to 7,216 feet, the valleys in the whole of the State are well watered by streams that flow into the Lerma River, which carries a large volume of water nearly the whole year.

The prices in this State are as follows: 1 to 4 dol. for goats and 1 dol. to 2 dol. 50 c. for sheep.

State of Puebla.

The State of Puebla, which has always been famous for its goat and sheep-skins, only comes eighth on the list, as the returns are very incomplete, no less than 63 of the municipalities having failed to give any data as to the number of goats and sheep, or of their approximate value, otherwise this State would be very much more to the front.

The State of Puebla covers an area of 12,204 square miles, and is situated in the heart of the Cordillera of the Sierra Madre, although it also extends to the border of the States of Guerrero and Oaxaca on the Pacific slope, and to the border of the State of Vera Cruz on the Gulf side, so that it has a variety of climates; the altitude varying from 656 feet in the district of Tetela, on the limits of the State of Vera Cruz, to 9,331 feet in the district of Chalchicomula. The country is very broken, but numerous streams flow through it before joining the Atoyac River, which flows into the Balsas River on the boundaries of this State, with that of Guerrero.

The number of goats returned by the municipalities is set down at 193,397, valued at 532,147 dol., but the only important one is that of Acatlan, in which there are said to be 52,200, valued at 104,400 dol.; and after this the only one that has a number exceeding 15,000, is that of Caltepec (19,161, value 3,832 dol.) in the district of Tehuacan.

The municipality of Chignahuapan, in the district of Alatriste, reports 50,700 sheep, valued at 84,200 dol., out of a reported total of 228,358 sheep, valued approximately at 510,031 dol. Only two other municipalities, Tlachichuca (12,764 sheep) in the district of San Andres Chalchicomula, and Libres (12,482 sheep) in that of San Juan de los Llanos, show any number above 10,000 head, but it is more than possible that others of greater importance may be among those that have not sent in any returns.

The average price given in the returns varies from 1 to 4 dol. for goats, and 1 to 3 dol. for sheep.

State of Hidalgo.

In the State of Hidalgo, which is the last of any importance, there are said to be 50,067 goats, valued at 91,991 dol., and 186,663 sheep, valued at 443,626 dol.; but in this, as in the preceding State,

many of the municipalities have failed to send in returns, which, had they been received, would undoubtedly show larger numbers both of goats and sheep.

This State is also situated upon the higher table-lands of the Sierra Madre; it covers an area of 8,575 square miles, the altitude varying from 817 feet at Huejutla, where it is practically tropical, to 8,282 feet at Singuilucan, in the district of Tulancingo, where the temperature is cold.

Of the municipalities that have sent in returns, the only one of any importance in the raising of goats is Ixmiquilpan, in the district of the same name, where there are said to be 8,532 goats, valued at 10,664 dol. This district is situated at an altitude of 5,512 feet above sea level, and its temperature is warm, as it is well sheltered by the surrounding mountains.

In the raising of sheep, the principal localities are the municipalities of Apam and Tepeapulco, situated at an altitude of 7,272 feet, and Cuautepec, in the district of Tulancingo. The two former comprise the district of Apam, which has a cold temperature, and vegetation is very scarce; the principal source of agriculture in this district being the cultivation of the maguey, or agave, from which is extracted the national beverage of "pulque." The whole of this district is situated on an extensive plain with very little water for irrigation. The total number of sheep in the district is said to be 97,000, valued at 261,150 dol., of which 61,500 are found in the vicinity of the town of Apam, and the remaining 35,500 in and near Tepeapulco. In the whole of the district of Tulancingo, which is situated at an altitude varying from 7,078 to 8,282 feet above sea level, with a temperature which is practically cold, there are said to be 49,656 head of sheep, valued at 112,199 dol., of which the greater number, 31,500, are found in the municipality of Cuautepec, and 10,620 in that of Singuilucan, which is considered to be the highest point in the State.

From the figures given in the returns, the average price for goats and sheep is as follows: 1 to 3 dol. for the former, and 1 to 2 dol. for the latter, according to the different localities.

Wool.

With the number of sheep and goats as returned, one would imagine that there would be sufficient wool and hair for the use of the woollen factories in the country—which at present are very few—but wool has to be imported from abroad. The following table gives the weight and value of the wool imported, as also what is sent away from the country:—

WOOL IMPORTS.

Year.	Carded.		Unwashed.	
	Quantity.	Value.	Weight.	Value.
	Lbs.	Dollars.	Lbs.	Dollars.
1899–1900	29,767	18,321	2,062,737	337,619
1900–01	69,961	27,420	2,334,203	464,838
1901–02	100,749	42,063	678,780	150,645

WOOL EXPORTS.

Year.	Quantity.	Value.
	Lbs.	Dollars.
1899–1900	66,614	6,065
1900–01	92	10
1901–02	1,736	404

There is every reason to believe that this industry is increasing, as in several parts of the country the large farm owners are importing foreign stock, principally of the Angora, Cotswold and Shropshire varieties.

Imports and exports.

In the following table, showing the number and value of the goats and sheep imported to or exported from Mexico, it has been impossible to separate the number of each, as the returns put them together:—

GOATS AND SHEEP.

Year.	Imports.		Exports.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
1899–1900	4,294	18,883	13,836	47,013
1900–01	3,280	19,343	4,039	9,814
1901–02	4,553	25,068	6,821	15,394

Export of goat and sheep-skins.

One of the principal articles of export of this Republic is that of the various kinds of hides and skins, among which are included those of sheep and goats. The following table gives the weight and value of these for the fiscal years ended June 30, 1900, 1901 and 1902:—

EXPORTS.

Year.	Goat-skins.		Sheep-skins.	
	Quantity.	Value.	Quantity.	Value.
		Dollars.		Dollars.
1899–1900	4,452,137	2,218,175	1,915	264
1900–01	5,088,055	2,654,999	2,191	174
1901–02	5,857,577	3,283,983	1,682	268

As can be seen from the foregoing table, the export of goat-skins is increasing yearly, and, from the remarks given in regard to the principal States in which this industry is mostly developed, it is manifest that, if it were carried on in the proper manner, it would be very productive, but at present goats are allowed to run in herds all over the country, feeding on whatever they can find on their road. The goat-skins, which are most in demand in the New York market, and for which a higher price is paid, are those from the State of Puebla, the market value being, during the year 1902, an average of 49 c. gold.

Another produce of the goat which is at present exported, though not in large quantities, is goat hair, the total amount exported in the three years being only 25,571 lbs., valued at 3,050 dol.; but in this, as in other branches of the industry, there seems to be a promise of increase.

In regard to sheep raising, it can only be said that it is at present very little developed, the animals being very small and very badly fed, and not even properly looked after, with the result that there is a great mortality among the lambs, and the sheep produce a very inferior quality of mutton and a very small yield of wool, which can be estimated on an average at from 1 to 2½ lb. per animal per annum.

Horses.

The horse in Mexico has only quite lately, say about 25 or 30 years, come into prominence, especially for carriage purposes. Formerly mules and donkeys were the principal, and one might say only, beasts of burden, although horses were found in nearly all the States in more or less quantities.

The native horse is small, but is considered to have great endurance. It is often used in the mining districts for tramping out the mud in order to mix it the more thoroughly with the mercury and salts used for the extraction of the silver from the ores in the old fashioned "Patio" process, which, however, is gradually disappearing and giving place to the more modern methods for extracting and reducing ores.

According to the official statistics from which all the figures in this report are taken, the total number of horses in the Republic of Mexico is said to be 859,247, valued at 10,822,203 dol., of which

104,674, valued at 981,617 dol., are reported to be in the State of Durango; the next States of any importance being Jalisco (70,877, value 862,644 dol.), Tamaulipas (69,611, value 727,234 dol.), Chihuahua (59,667, value 534,257 dol.), Zacatecas (56,764, value 428,760 dol.), Coahuila (55,825, value 247,495 dol.), and Sonora (52,033, value 565,578 dol.). Horses are said to exist in all the other States, but in much smaller numbers.

State of Durango.

In the State of Durango the principal districts are Durango (27,347), Idné (20,104), and Cuencamé (12,354). The only one that requires a few words is Cuencamé, as both the districts of Durango and Indé have been described when dealing with cattle. This district is divided into three municipalities—Cuencamé, in which there are 8,344, while Peñon Blanco and Santa Clara have only that number between them, the whole number being valued at 73,015 dol. The district of Cuencame is situated at an altitude of over 5,707 feet, upon the slopes of the Sierra Madre. It has a temperate climate, but is not in easy communication with any of the large towns in the State, or with the railway that passes through the State, consequently all traffic is effected over the high roads, which in many places are very broken and difficult to cross.

The values given in the returns for this State give a price for horses that varies from 6 to 20 dol. (although the price in the district of Tamazula is stated to be 125 dol. per head), while the average roughly taken for the whole State is about 10 dol.

State of Jalisco.

In the State of Jalisco, the only cantons or districts in which horses are said to be in any great numbers are Jocotepec (12,808) and La Barca (10,389). The former embraces the country on the western and southern shores of Lake Chapala and has a very temperate climate. The only municipality, however, of any importance is Tlajomulco, situated some 20 miles to the south of Guadalajara, on the branch line of the Mexican Central Railway to the Pacific coast. The number of horses reported from the whole district of Jocotepec is 12,808, of which 11,193, valued at 11,240 dol., are found in Tlajomulco.

The municipality of Ocotlan is said to have 2,930, valued at 38,450 dol., out of the 10,389 reported from the canton or district of La Barca, and 2,172 head in the municipality of Tepatitlan, leaving the remainder to be divided among the other six municipalities which form the district.

The average price in this State appears to vary from 10 to 430 dol., while all places of any importance are within easy reach of the Mexican Central Railway.

State of Tamaulipas.

The State of Tamaulipas occupies that portion of the Republic of Mexico which forms the coast line of the Gulf of Mexico, between the State of Vera Cruz and the frontier of the United States of America. It covers an area of 32,268 square miles, and though the greater portion of the State is situated to the north of the Tropic of Cancer, the climate is generally considered as hot, with the exception however of the south-western district on the borders of the States of

Nuevo Leon and San Luis Potosi, where the climate is more temperate, as the lands are higher up on the spurs of the Sierra Madre range.

The total number of horses reported from the State of Tamaulipas is said to be 69,611, valued at 727,234 dol., of which the greater number are found in the southern district of the State, of which the port of Tampico is the chief town. This district is divided into eight municipalities, that of Magiscatzin, or Horcasitas as it was formerly known, being the principal, there being in that municipality 9,630, valued at 193,160 dol., out of a total of 22,901, valued at 298,702 dol., which are reported from the whole of the district, without including the municipality of Tampico, from which no returns have been received. With the single exception of the municipality of Gomez Farias, situated at an altitude of 6,363 feet, the rest of the district slopes gently towards the coast, the height of Tampico being but 33 feet above sea level. The whole of this district is traversed by the Tampico River, which rises in the Sierra Madre on the borders of the State of Nuevo Leon.

Several streams and rivers flow through the State, making it very fertile, and it appears as if the horse is found in greater numbers in those places where the altitude is not too great.

The average price per head in this State is 10 dol., although in some places it is as low as 6 dol., and in others as high as 22 dol. 50 c.

The State of Tamaulipas has not many facilities in the way of communication at present, but the Government of the State endeavours to preserve the roads in good condition.

State of Chihuahua.

The total number of horses in the State of Chihuahua is said to be 59,667, valued at 534,257 dol., of which the only district of any importance is Iturbide, where there are 30,544 head, valued at 186,640 dol. Of this number, 20,000, valued at 100,000 dol., are reported from the municipality of Ojinaga, which has already been described under the heading of cattle.

The average price o horses throughout the State is 9 dol., although the price in some localities is as low as 4 dol. 50 c., while in others it is as high as 20 dol.

State of Zacatecas.

The State of Zacatecas, which is the next in importance, is said to contain 56,764 head, with an approximate value of 428,760 dol.

This State is situated upon the higher plains of the Cordillera of the Sierra Madre, which extends in all directions through the State, covering an area of 28,327 square miles. Its temperature is cold in general, although in some few districts it is quite temperate. The altitude of the State varies from 3,837 to 9,322 feet above sea level, but the average altitude can be considered at about 6,560 feet.

The district of Fresnillo, which is divided into three municipalities, is said to contain 20,183 head, valued at 104,229 dol., out of the total number of 56,764 reported from the whole of the State. The number of horses in the district of Fresnillo is divided as follows: in the municipality of Fresnillo there are 9,121; in that of Valparaiso, 5,280; and in that of Villa de Cos, 5,782.

The only other municipality in the State of Zacatecas is that of Villanueva, in the district of the same name, in which there are said to be 5,436 head, valued at 42,006 dol.

The average price of the total number is nearly 8 dol. per head, though the price in many of the municipalities is only 10 dol., except in the municipality of Calera, where 85 horses are reported, with a value of 12,500 dol., a price which seems to be out of all proportion to the ruling price in the State.

State of Coahuila.

In the State of Coahuila there are said to be 55,825 horses, valued at 247,495 dol., of which the greater number (33,229, valued at 89,306 dol.) are reported from the district of Monclova, and 12,584 horses, valued at 105,579 dol., from that of Rio Grande.

The State of Coahuila, situated on the frontier of the United States of America, covers an area of 64,075 square miles. Its temperature is very variable, and the altitude of the different localities has undoubtedly a great influence upon these climatic changes. Hidalgo, a municipality on the banks of the Rio Grande, the boundary of the two countries, is only 443 feet above sea level, while Arteaga, a place formerly known as Las Palomas, in the district of Saltillo, is 5,281 feet.

In the district of Monclova, the most important in this State, the number of horses is said to be 33,229, of which 19,840 are in the municipality of San Buenaventura. The district covers the central portion of the State and enjoys a variety of climates; the municipality of Progreso being 951 feet above sea level can be considered as tropical, while the municipality of Sierra Mojada is on an elevated plateau some 5,169 feet high, and has a very temperate climate. All the other municipalities in the district are of a warm temperature, and, with the single exception of Ocampo, which is 3,529 feet, there are none above 2,624 feet.

There are several small lakes in the district, which in some seasons of the year are sufficient to afford means for irrigating the surrounding country, but the Bolson de Mapimi, which covers a large part of this State, is a vast arid plain. Experience has, however, shown that even this could be artificially irrigated in the same manner as has been done at Tlahualilo, in the neighbouring State of Durango.

The only other district of any importance is that of Rio Grande, which receives its name from the river that forms the division line between the two countries. The number returned from this district is 12,584 horses, valued at 105,579 dol., of which 4,563 horses are found in the municipality of Jimenez, formerly known as "La Resureccion," at an elevation of 951 feet. The whole of the district is reported as having a mild temperature, notwithstanding that its highest point, the municipality of Zaragoza, is only 1,771 feet above sea level.

This State may be considered as one of the most important in Mexico, as it has practically the two principal openings on its border—Laredo, the junction of the Mexican National Railway with the

American systems, and Ciudad Porfirio Diaz, where the Mexican International also joins the American railway lines.

The country is broken, but numerous streams, which in their course through the State receive other affluents, carry a large supply of water to the Rio Grande, afford easy means of irrigation and also produce good pasture lands along the banks.

The value of the 55,825 horses reported as found in this State is put down at 247,495 dol., which represents nearly 4 dol. 50 c. each, but the actual price can be considered at about the same as in other States, namely, 10 dol. per head, a price which is more in accordance not only with those given in the separate municipalities in this State, but also with the general price ruling throughout the country.

State of Sonora.

The State of Sonora, which has been described under the heading of cattle, is the last important one in the raising of horses, the principal districts being Ures, with 12,349 head, valued at 127,400 dol.; Alamos, with 9,115 head, valued at 97,434 dol.; and Altar, with 7,547 head, with a value of 75,845 dol.; but the only municipality of any importance in these districts is that of Horcasitas, in the district of Ures, which gives a return of 6,207 head, valued at 62,070 dol., the other municipalities throughout the State showing figures too small to go into any detail.

The district of Ures is the largest political division of the State of Sonora. and covers the greater part of the State; its climate is hot, but the Sonora River flows through the length of the municipality, and this provides for an easy means of irrigation for the production of good pasturage.

The average price of horses in this State is the same as in many others, namely, 10 dol. per head, although there are municipalities where the price is as high as 20 dol.

Imports and exports.

The Federal Government of Mexico has endeavoured to increase the breeding of horses, and foreign animals are imported for that purpose. The following table shows the number and value of foreign horses imported and that of native animals exported :—

HORSES.

Year.	Imports.		Exports.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
1899–1900	1,888	126,958	3,785	143,712
1900–01	1,535	116,115	5,597	171,954
1901–02	4,660	195,305	5,440	158,331

In the number of horses are included not only all thoroughbred horses and mares, but also stallions, and one-year old colts (as also

any other animals of pedigree) imported for the purpose of breeding, which enter free of duty; whereas, if not intended for that purpose, geldings pay an import duty of 40 dol. per head, and stallions, mares and colts more than one-year old are taxed with a duty of 15 dol. per head on entering the country.

From the foregoing table it would appear as if foreign horses were imported of less value than formerly, as the price per head in 1900 averaged 67 dol., in 1901 it was 76 dol., while in the year 1902 it was but 42 dol.

The value given to native horses exported in the three years has been on an average of 32 dol. silver, a price which is quite in accordance with what is paid in the country for such animals.

In the States that have been mentioned as having the greatest number of horses, the means of communication and transportation are, with the exception of the towns on or near the railways, still very primitive, and horses would have to be brought along the high roads and mountain passes, which in many places are very broken and very difficult to cross.

Swine. The industry of raising pigs for market and other purposes is still in a very backward condition, though it must be said that of late years several farmers have endeavoured to improve the class of animals by importing live-stock for breeding purposes and for crossing with the native pig.

Pigs have usually been bred to obtain the largest amount of fatty matter, for lard is employed for domestic purposes in large quantities throughout the country, and also for making candles and soap.

With the influx of American capital and the establishment of large packing houses, the meat has been more sought for, especially for curing and preparing hams and bacon, which, owing to the greater number of foreigners in the country, are in much greater demand than formerly.

The total number of swine in the country is reported to be 616,139, valued at 2,068,090 dol., of which the greater number are found in the territory of Tepic, and in the States of Jalisco, Michoacan, Guanajuato and Guerrero.

Territory of Tepic. The territory of Tepic, formerly a part of the State of Jalisco, covers an area of 10,952 square miles, and is situated upon the Pacific Coast, between the States of Jalisco and Sinaloa. Its temperature is hot, with the exception of one or two places where it is temperate, and at La Yesca, which is 4,526 feet above sea level, it is cold. The Sierra de Nayarit runs through the length of the territory of Tepic, and numerous streams flow into the Rio Grande de Santiago, which, known as the River Lerma and other names, rises in the high table lands of the Republic, in fact within some 50 miles of the capital, and flows through the States of Mexico, Hidalgo, Michoacan, Guanajuato, Jalisco and Tepic into the Pacific Ocean.

The total number of pigs in the territory of Tepic is given at 86,523, valued at 101,684 dol., of which 52,300 are found in the municipality of Acaponeta, which is only at an altitude of 209 feet above

sea level, the remainder being found in the other 15 municipalities into which the territory of Tepic is divided; the next in importance being the municipality of Tepic, in which there are said to be but 11,632.

Perhaps one of the reasons why this industry is not more developed in this part of the country is the want of proper means of communication, there being no railway in the whole of the territory, and the roads being only rough mountain passes.

The average price throughout the whole of the territory appears to be 1 dol. per head, though in some places it is as low as 50 c., but in others again it is as high as 4 dol.

State of Jalisco.

In the State of Jalisco, which has been described already, there are said to be 76,529, valued at 264,875 dol., of which the greatest number, 6,475, are found in the municipality of Jalostotitlan, in the district of Teocaltiche, and which are estimated at a value of 20,235 dol.

The municipalities of Zapotlanejo and San Sebastian are the only other two of any great importance in this industry. In the former there are said to be 5,478, valued at 10,956 dol., and in the latter 4,380, valued at 13,140 dol.

The price of pigs in this State varies from 1 to 5 dol., the average however being 2 dol.

State of Michoacan.

The total number of pigs in the State of Michoacan, which has also been described, is set down at 73,071, which are valued at 190,724 dol. Of this total the majority are found in the district of Coalcoman, and in the municipalities of Huacana and Ario in the district of Ario de Rosales, and Puruandiro and La Piedad.

The district of Coalcoman, situated on the Pacific coast, shows a return of 23,970, valued at 28,620 dol. The temperature is hot, as it lies low. There are no means of communication except by the high roads, which, as a rule, are very broken, especially in traversing the mountain ridges.

The district of Ario de Rosales is said to have 8,970 pigs, valued at 11,352 dol., of which 4,760 pigs are in the municipality of Huacana, and 4,025 pigs in that of Ario itself. The only means of communication in this district at present being the high roads, which are very rough. There is, however, a rumour that a railway will be built to the town of Ario very soon, in which case it will be brought into communication with the rest of the Republic by means of the Mexican National Railway, the present terminus of which is the town of Uruapam.

In the municipality of Puruandiro, in the district of the same name, there are said to be 3,850 pigs, with a value of 15,400 dol.; and 3,342 pigs, valued at 10,262 dol., in that of La Piedad, also in the district of that same name. These districts are situated on the limits of this State and that of Guanajuato, and have the advantage over the preceding districts or municipalities in being either on the line itself or in easy communication with the Mexican Central Railway.

The average price in this State is 2 dol., though it varies from 1 to 5 dol.

State of Guanajuato.

The value of the swine in the State of Guanajuato is put down at 196,130 dol. for 49,014 animals reported from the State, one single municipality having failed to send in returns. The two municipalities of most importance being Cuitzeo de Abasolo, and Salamanca, both of which are in the southern part of the State, where it borders on that of Michoacan, and can be considered as forming, in connection with Buruandiro, La Piedad in Michoacan, and Irapuato and Penjamo in this State, the largest centre of this industry. All these towns are either on the main line of the Central Railway or in very close proximity to it. Another means of communication is the Lerma River, which passes through all of these places.

Cuitzeo de Abasolo, in the district of the same name, is reported as having 5,008 pigs, valued at 17,906 dol., while Salamanca has 4,790 pigs, valued at 23,950 dol.

Both Cuitzeo and Salamanca, as well as La Piedad, Irapuato and Penjamo, are situated on large level plains, with but few irregularities in the configuration, although they are over 5,730 feet above sea level.

The price for pigs in this State varies fom 2 to 5 dol.

State of Guerrero.

The last State of any importance is Guerrero, which is situated on the Pacific coast, between the degrees 16° 10′ and 18° 44′ N. lat. It covers an area of 28,856 square miles, and is traversed from end to end by portions of the Sierra Madre Range, rendering the country very broken. The total number of pigs reported amounts to 41,879, valued at 116,320 dol., although it must be taken into consideration that returns from no less than 12 of the municipalities are wanting. Of those municipalities that have sent in returns the only one that is of any importance is that of Atoyac de Alvarez, in the district of Galeana, in which there are said to be 10,000 pigs, valued at 25,000 dol. This district is situated on the coast, and consequently the temperature is quite tropical.

The average price of pigs in this State appears to be 2 dol. 50 c., though the prices range from 90 c. to 5 dol., according to the locality.

With reference to the raising of pigs, it may be mentioned that large establishments have been erected at Chihuahua, the capital of the State of the same name, and at Toluca, the capital of the State of Mexico, where hams and bacon are cured, and all kinds of salted, smoked and preserved meats are prepared, which are little inferior to those imported from the United States, and the price is very much less. At Monterrey, Chihuahua, and many other large towns in the interior, there are large soap factories which consume an immense amount of lard.

Imports and exports.

In the imports of live-stock the same rule is observed as in the import of cattle, namely, that the duty is levied on the gross weight

of the animals, so that it is absolutely impossible to say what the numbers were. The value, however, will serve to show what variation there may have been, but at the same time it must be remembered that it is natural that there should be fluctuations in the market price of these animals.

The exports of live-stock give the number as well as the value, so that there is not the same difficulty to be overcome as in the case of the imports :—

Year.	Imports.		Exports.	
	Quantity.	Value.	Number.	Value.
	Lbs.	Dollars.		Dollars.
1889–1900	1,686,260	71,743	2,027	11,471
1900–01	1,553,317	80,909	3,727	23,473
1901–02	461,590	29,054	2,260	17,440

Besides the live-stock, very large quantities of lard are imported which serve to feed the soap factories already alluded to, as the production of the country is entirely inadequate to meet the demand. This all comes from the United States, through the northern frontier custom-houses, by rail. To compensate for this import of lard there is a fairly large amount of bristles exported, as can be seen from the figures in the following table, which gives the quantity and value of lard imported, and the amount and value of the bristles that are exported, mostly to the United States :—

Year.	Imports of Lard.		Exports of Bristles.	
	Quantity.	Value.	Quantity.	Value.
	Lbs.	Dollars.	Lbs.	Dollars.
1899–1900	9,178,602	482,874	333,293	114,994
1900–01	9,585,811	571,920	363,664	116,393
1901–02	11,093,408	766,405	334,086	100,260

The last divisions into which the statistical returns are divided are mules and donkeys, but as the numbers of each variety are so small, and the nature of the animals and their uses are so similar, they have been put together so as to make but one more division. Mules and donkeys.

The total number of these animals as given in the returns is as follows :—

	Number.	Value.
		Dollars.
Mules	334,435	10,576,958
Donkeys	287,991	2,360,552
Total	..	12,937,510

Both mules and donkeys were for centuries not merely the only means of obtaining communication from one town to another, but were also the only beasts of burden as well as draught, the horse being unable to bear the fatigue of the long journeys across the broken country or to carry the weight borne by either mules or donkeys, and moreover, the latter have always been considered as more sure-footed, especially for crossing the mountains. Mules were also employed for the large wagon trains for conveying all kinds of merchandise from the ports to inland towns, as also the products of the mines either as ores, coin, or bullion, to the ports where it was taken for export, and even now in many parts of the country these mule trains are still to be seen trailing their way across the mountains. Mules were formerly used by the grandees of New Spain and by the rich families in the large towns in place of horses for their carriages; the stage coaches were also drawn by them entirely. Donkeys were used principally for carrying lighter burdens and for shorter distances. At the present time horses have altogether replaced them, except in the haciendas or large farms, or in the out of the way towns, where all conveyances are drawn by four or more animals, which are almost invariably mules.

With the introduction of steam and electricity, both mules and donkeys have been done away with, or at least have been sent to those parts of the country where the iron horse has not yet made its way, and where the steady tread of mule or donkey can be heard instead of the impatient throbbings of electrical machinery.

The principal States in which mules are found are Durango, Jalisco, Michoacan, Zacatecas and Puebla, while donkeys are chiefly to be met with in Guanajuato, Zacatecas, Durango, Chihuahua and San Luis Potosi.

State of Durango.

In the State of Durango, which has already been described under the heading of cattle, there are said to be 32,931 mules, valued at 795,989 dol., and 28,109 donkeys, with an approximate value of 270,032 dol.

The chief districts in which mules are found are Indé, Durango, Mapimí and San Juan del Rio; while donkeys are mostly found at San Juan del Rio, Indé and Durango; Mapimí having only 441.

In the district of Indé there are said to be 7,913 mules, valued at 126,485 dol., and 3,872 donkeys, with a value of only 24,267 dol. This district, which is divided into three municipalities, Indé, Hidalgo and Ocampo, can be considered as a chief distributing centre for merchandise of all kinds, which is carried by mule trains to towns and mining districts situated among the mountains, while donkeys are employed in carrying the ores from the different mines to the haciendas for treatment.

In the district of Durango, including the capital of the State, there are said to be 5,219 mules, valued at 152,391 dol., and 3,059 donkeys, valued at 30,086 dol. It is divided into three municipalities, Durango (which is the capital of the State), Canatlan and Pueblo

Nuevo. Durango, though connected with the Mexican Central Railway, can still be considered as one of the principal distributing centres of the State. Canatlan is the point of departure for many of the large mining districts in the north-western part of the State, notwithstanding that the railway touches at Santiago Papasquiaro, still further in the mountains, and serves as a connecting link with the large district of San Juan del Rio. It is in this district that the famous Cerro del Mercado is situated, and donkeys are in great demand for the transportation of the iron ores either to the smelters or to the railway station to be sent to other parts of the country or to ports for export to Europe or the United States.

The district of Mapimí, situated in the north-eastern part of the State, is also a large mining centre, and having the advantage of the railway passing through it, serves as a distributing centre for all the other districts not yet within reach of the railway. The number of mules in the whole district is said to be 5,775, valued at 122,900 dol., while there are but 441 donkeys, with a value of 4,610 dol.

The last district of any importance is San Juan del Rio, in which there are said to be 3,378 mules, valued at 101,340 dol., and 3,421 donkeys, with a value of 65,268 dol. It is divided into four municipalities, San Juan del Rio, Panuco, Rodeo and Coneto. It is in direct communication with the railway by way of the town of Canatlan, and serves as a distributing centre for supplying the towns and mines, among which may be mentioned the Avino mines, which are situated in the district. In the mining districts donkeys are often used in preference to mules, as being smaller they are able to go at a quicker pace, though perhaps not able to carry the same weight as the mules.

The average price of mules in this State is 25 dol., though in some places like Mapimí, the price is as high as 50 dol., a price that would indicate that they are of a finer class than in other districts, and are animals belonging to the owners of the haciendas and only intended for their own special use. The price of donkeys varies from 6 dol. in the district of Indé to 14 dol. in that of San Juan del Rio, but the average price can be said to be about 9 dol.

State of Jalisco.

According to the statistics published there are said to be 27,497 mules in the State of Jalisco, valued at 777,890 dol., and 16,990 donkeys, with a value of 154,592 dol. Mules are principally found in the districts of Ciudad Guzman, Teocaltiche, Ahualulco, Lagos and Ameca ; but if special localities are taken instead of districts, there are but two places, Teocaltiche and Lagos, which show a return of over 1,000 animals. Both of these places are large towns, which for many years have been the distributing centres for merchandise, not only for this particular State, but also for Guanajuato and Zacatecas, especially the latter, as it is on the main road from one State to another.

The district of Ciudad Guzman was of great importance in the days when merchandise was brought from the Pacific Coast ; most

of the traffic passing through Colima, Tuxpan and Zapotlan on its way to Guadalajara, or even the city of Mexico, but since the railway has been opened from Guadalajara to Tuxpan, mules have in a great measure ceased to be of as much service as in olden days, and are used now only for places on the coast of Jalisco, Colima, or Michoacan, where there is at present no access by rail.

Donkeys are found principally in the municipalities of Teocaltiche, Paso de Sotos, San Martin and Totatiche; the two former in the district of Teocaltiche and the two latter in that of Colotlan. Donkeys are in general use in the mining districts for carrying ores, &c.

The average prices ruling in this State, as taken from the statistics, are 20 to 40 dol. for mules and 10 to 15 dol. for donkeys.

State of Michoacan.

In the State of Michoacan there are said to be 26,390 mules, valued at 527,197 dol., and 15,106 donkeys, with a value of 132,186 dol. Although there are three districts in which there are quite a number of mules, namely, Ario with 3,587, Tacambaro with 2,654, and Huetamo with 1,091, they are so divided among the various municipalities that it is useless to go into any further detail. The three municipalities, however, which are of some importance are Tacambaro, in the district of the same name, 2,246; Huacana, in the district of Ario, 2,175; and Ixtlan, in that of Zamora, 1,172. Both Tacambaro and Huacana are at present some distance from any railway communication, and are, after Ario, the principal towns in that part of the country, being on the high road from Uruapam, the present terminus of the Mexican National Railway and the port of Acapulco, in the State of Guerrero, on the Pacific Coast. In Ixtlan mules are in general use for agricultural purposes and also for use in the various haciendas in that part of the country.

Of the 15,106 donkeys reported to be in this State, 1,590 donkeys are found in the municipality of Huetamo and 1,168 donkeys in that of Zirandaro, both in the district of Huetamo, 1,390 donkeys in the municipality of La Piedad and 1,258 donkeys in that of Zinapecuaro. Huetamo and Zirandaro can be considered as large distributing centres, especially for mining supplies, and though merchandise is carried principally on mules, donkeys are employed over the mountain passes—in many parts very broken and dangerous—as also for the transport of ores and agricultural produce to and from the mines and large towns. La Piedad is practically an agricultural district in which donkeys are used for general purposes, and for carrying products of all kinds to the larger towns of San Juan de los Lagos and Lagos, and also to Guadalajara.

In the municipality of Zinapecuaro there are the remains of the large silver mines which at one time were worked successfully by the Spaniards. These properties were taken over by a British company at the beginning of last century, which spent a large sum of money in trying to clean up the workings, and after several years they were abandoned at a loss. Lately again the same pro-

perties have been worked in conjunction with others in the district, and the ores, principally lead with silver, are brought to the station of Zinapecuaro on donkeys for transportation to the city of Mexico, or to the smelters at San Luis Potosi and Monterey. There are only 886 mules in the whole of this district.

The price of mules in this State ranges from 8 to 15 dol., but as the returns from this State are very incomplete the average price cannot be given.

State of Zacatecas.

The State of Zacatecas, which is fully described under the heading of goats and sheep, is a very important one in the raising of mules and donkeys. The principal districts for mules and also donkeys are Fresnillo and Zacatecas. In the former there are 6,656 mules, valued at 153,383 dol., and 4,688 donkeys, with a value of 28,712 dol. In the latter there are said to be 3,608 mules, valued at 78,636 dol., and 5,963 donkeys, valued at 54,567 dol. The only other two districts which are of any importance are Mazapil, with 826 mules, valued at 11,360 dol., and 4,000 donkeys, estimated at 21,500 dol.; and Pinos, in which there are said to be 2,018 mules, with a value of 30,469 dol., and 3,300 donkeys, valued at 15,293 dol.

The State of Zacatecas is principally a mining State, and the four districts are all important distributing centres for those localities which are at present away from railways or other easy means of communication.

Mules are used in preference to horses, not only for riding across the mountains and for long distances, but also for all kinds of conveyances, whether it be the large and cumbersome stage coach or the small carriage used by the well-to-do farmers and merchants.

Donkeys are in more demand for carrying light merchandise from town to town, and for the transportation of ores from the different mines to the towns, works or railway stations.

The price in this State is 20 to 40 dol. for mules and 5 to 10 dol. for donkeys, although the average price on the total number reported is 23 dol. for mules and 7 dol. 50 c. for donkeys, which cannot be taken as a basis for any operation as so many of the municipalities have failed to send in their returns.

State of Puebla

In the State of Puebla there are said to be 25,602 mules, valued at 1,108,716 dol., and 6,661 donkeys, with a value of 70,870 dol.

Unfortunately these figures cover but three-fifths of the whole of the State of Puebla, as the municipalities in the other two-fifths have failed to send in their returns.

Of those districts from which returns have been received, the most important are San Andres Chalchicomula, in which there are said to be 6,667 mules, valued at 283,485 dol.; Tepeaca, with 3,881 mules, valued at 151,879 dol.; and San Juan de los Llanos, with 3,623 mules, with a value of 172,220 dol.

In this State the greater number of mules are found on the higher table-lands, where the temperature is cold, San Andres Chalchicomula being between 7,133 and 9,332 feet above sea level;

Tepeaca between 7,081 and 8,039 feet; while the towns in the district of San Juan de los Llanos range between 6,347 and 7,856 feet. These districts are all purely given over to agriculture.

The prices for mules in these localities from which returns have been received range from 30 to 50 dol.

The total number of donkeys which has been returned by the municipalities of the State of Puebla, is only set down at 6,661, valued at 70,870 dol.; but, as in the case of mules, two-fifths of the municipalities have failed to send in any returns. Of those which have given any particulars there is but one, Chignahuapan, in the district of Alatriste, in which the number reported exceeds 500, and the price per head, as taken from these figures, ranges from 8 to 15 dol.

State of Guanajuato.

The State of Guanajuato reports only 15,547 mules, valued at 481,605 dol., of which 1,368 mules, valued at 47,880 dol. are found in the district and municipality of Penjamo; the remainder being divided up in insignificant numbers among the other municipalities into which the State is sub-divided.

Though the returns show such a small number of mules, the number of donkeys is greater than in any other State, namely, 40,948, valued at 383,776 dol.

The principal localities in which they are found are Penjamo, in the district of Guanajuato, 6,372, valued at 63,720 dol.; Dolores Hidalgo, 4,858, value 32,859 dol.; and San Miguel de Allende, 4,524, value 36,192 dol.

Penjamo is situated on the Mexican Central Railway, and serves as a distributing centre for the south-west portion of the State, and also for the south-east part of the State of Jalisco, districts which are at present only connected with the railway by mule trains.

Hidalgo and San Miguel are both on the National Railway, and serve as points of distribution for many of the mining and agricultural districts in the north-east part of the State.

The prices for mules in this State, as taken from the returns, vary from 20 to 40 dol., while that for donkeys is between 7 and 10 dol.

State of Chihuahua.

Another State in which the number of donkeys is very considerable is that of Chihuahua. The total number as given in the returns is 26,544, with a value of 144,412 dol. The number of mules in this State, as shown by the returns, is very small, only 9,401, valued at 490,025 dol.

The locality where the greatest number of mules is reported from being Ciudad Guerrero, and as there is only one municipality which has failed to send in returns, the number and price may be considered as nearly correct.

The prices given in the returns vary from 20 to 40 dol. each, the most general price, however, being 20 dol. in nearly all the municipalities.

The returns showing the number of donkeys are much more incomplete, but the municipality of Ojinaga, in the district of Iturbide, gives a return of 15,000 donkeys, valued at 45,000 dol.

There are seven other municipalities in this same district which also have sent in returns, the largest, Cusihuiriachic, in which there are said to be 1,473, valued at 9,915 dol. The other six show amounts varying from 55 at Cerro Prieto to 750 at Coyame. From these figures it would appear as if mules were not in as general use for freight purposes as in most of the other States; but that the donkey is in much more general demand for conveying materials and merchandise from the places where the railway touches to outlying mineral districts and for bringing return cargoes of ore.

The prices for donkeys in this State range from 5 to 10 dol.

State of San Luis Potosi.

The State of San Luis Potosi, which is also one of the most important in the raising of goats and sheep, has 12,219 mules, valued at 258,700 dol., and 21,905 donkeys, said to be worth 145,910 dol.

With the single exception of the municipality of Guadalcazar—in which are situated the famous quicksilver mines of Mexico—there are said to be 1,935 mules, valued at 19,400 dol.; the remainder of the animals are distributed in such small numbers throughout the other municipalities into which the State is divided, none of which has a number of animals sufficiently large to warrant a description.

The price of mules in this State ranges from 20 to 50 dol. The average price from these returns being more or less about 30 dol.

In regard to the number of donkeys to be found in this State, it is very difficult to speak with any certainty as the returns are very incomplete, but of those municipalities that have sent in their reports, the principal are Guadalcazar—which is also the place where mules are found in greatest numbers—in which there are 2,688, valued at 10,672 dol.; Villa de Reyes, 2,198, value 17,842 dol.; Santa Maria del Rio, 1,829, value 12,803 dol.; and Cerritos, 1,748, with a value of 5,244 dol.

Of these four municipalities, Guadalcazar and Cerritos are places where mining forms the principal occupation of the inhabitants, while at Villa de Reyes and Santa Maria the chief industry is the making of "rebozos" and shawls.

The price of donkeys in the State of San Luis Potosi varies from 7 to 10 dol.

The raising of these animals is at present of much less importance than formerly, as animal power, which was the most usual method employed for moving machinery, has now given place to steam and electricity, and all the animals which at one time existed in all the large haciendas have been sold or sent to those places where, on account of distance or other conditions, communication is still very backward, and modern methods and appliances have not yet found their way.

Having thus shown where these animals are found in greatest numbers it remains to show what the imports and exports have been during the same period as that taken in the case of the other animals:—

IMPORTS and Exports of Mules.

Year.	Imports.		Exports.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
1899–1900	3,329	104,576	1,937	96,740
1900–01	1,949	60,834	1,595	62,134
1901–02	778	35,794	1,617	77,212

IMPORTS and Exports of Donkeys.

Year.	Imports.		Exports.	
	Number.	Value.	Number.	Value.
		Dollars.		Dollars.
1899–1900	491	14,756	283	3,471
1900–01	182	7,109	58	1,539
1901–02	143	14,275	25	385

Conclusions.

The figures which have been given in the foregoing pages only refer to those States in which the raising of stock of all kinds is more extensively carried on. This industry is at present so little practised and has so far received no encouragement either from the Government or from private companies, and that, notwithstanding that the country has been at peace so long and foreign capital and labour are constantly being introduced; and there seems to be no reason why, if a certain amount of care and study be employed in the breeding of all these animals, this industry should not prove as productive as either mining or agriculture.

The raising of all kinds of animals in Mexico would, if it were supported by the Government, increase her commerce very considerably, as owing to the diversity of climate, grain and fodder of all kinds could be easily grown with very little trouble and one might say even expense. Barley, which is the grain in most common use as fodder, grows in almost any part of the Republic, as also clover, or lucerne, and very probably many of the agricultural products which are in common use in Europe and the United States could be successfully introduced.

Barley, maize and wheat.

The agricultural returns, as published by the Department of Fomento, give particulars from all the different States of the Republic, and the following are the figures for the years which hav been taken as the basis of the tables of imports and exports of all kinds of animals, and which are the latest published :—

Year.	Quantity.		
	Barley.	Maize.	Wheat.
	Bushels.	Bushels.	Bushels.
1899	10,406,844	90,582,942	9,284,333
1900	10,207,291	89,386,859	11,425,360
1901	7,471,008	90,603,516	12,017,641

The State of Mexico produces 32 per cent. of the barley, 6 per cent. of the maize, and 6 per cent. of the wheat grown in the country. The State of Hidalgo produces 15 per cent. of the barley but only a very insignificant amount of either maize or wheat. Puebla shows 14 per cent. of barley, but neither wheat nor maize appear to be very large crops. Michoacan shows only 9 per cent. of barley, 7 per cent. of maize and 22 per cent. of wheat, while Tlaxcala, which is a very small State, produces 10 per cent. of the whole barley crop. The State of Jalisco does not produce either barley or wheat in any great abundance, but its crop of maize is the largest—and that is only 12 per cent.—of the whole crop. The State of Guanajuato produces 11 per cent. of maize and 28 per cent. of wheat. The State of Sonora, 10 per cent. of wheat but little barley or maize. The States of Chihuahua and Coahuila produce respectively 6 per cent. each of the wheat crop, but both maize and barley are very small crops.

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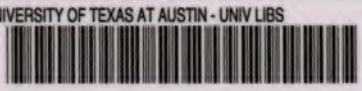

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